

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A method of manufacturing a wear resistant shoe, comprising:

cold-heading one end portion of a generally cylindrical blank to radially increase and axially diminish the dimensions of the one end portion, and to work harden the one end portion while leaving an opposite end portion dimensionally unchanged and maintaining cold-workability of the opposite end portion;

machining the previously cold-headed one end portion to form a cam engaging portion of said wear resistant shoe; and

subsequently cold-working and thereby hardening the opposite end portion.

2. (Original) The method of claim 1, including the additional steps of:

machining the cold-headed blank prior to cold-working to form a hollow skirt in said opposite end portion for receiving a rounded end of a piston rod.

3. (Original) The method of claim 2, wherein the step of cold-working comprises crimping the skirt about a received piston rounded end, joining the shoe and piston, and work hardening the skirt.

4. (Previously Presented) The method of claim 3, wherein the step of machining the one end portion machines the one end portion to predetermined final dimensions subsequent to the step of cold-heading and prior to the step of crimping.

5. (Previously Presented) The method of claim 3, wherein the step of machining the cold-headed end portion forms a cam engaging wear resistant surface.

6. (Original) The method of claim 5, further including the step of surface hardening the machined cam engaging surface.

7. (Original) The method of claim 6, wherein the step of surface hardening comprises application of a TiN material.

8. (Withdrawn) A wear resistant shoe manufactured according to the process of claim 1.

9. (Currently Amended) The method of claim 1, wherein the cylindrical blank comprises an alloy of cobalt.

10. (Previously Presented) A method of manufacturing a wear resistant shoe, comprising:

work hardening a portion of a cylindrical member to a substantial depth while leaving another portion of the cylindrical member dimensionally unchanged and maintaining cold-workability of said another portion;

machining the work-hardened cylindrical member portion to finished dimensions, thereby forming a cam engaging portion of said wear resistant shoe; and

surface hardening a face of the machined cylindrical member portion.

11. (Previously Presented) The method of claim 10, including the additional step of machining said another portion of the cylindrical member to form a hollow skirt in said another portion for receiving a rounded end of a piston rod.

12. (Original) The method of claim 11, including the further step of crimping the hollow skirt about the rounded end, the crimping imparting an increased hardness to the cylindrical member close to the crimp.

13. (Withdrawn) A wear resistant shoe having a surface hardened face for engaging a cam, a socket for providing a pivotal coupling to a piston rod, and a work hardened foundation in the face region for providing rigid support for the surface hardened face.

14. (Withdrawn) The shoe of claim 13, wherein the socket is crimped around a rounded portion of a piston and work hardened by the crimping.

15. (Previously Presented) A method of forming and assembling a piston and wear resistant shoe, the shoe formed from rod stock of a diameter less than the greatest diameter of the finished shoe, comprising:

upsetting one end portion of the rod stock to axially reduce and radially increase the dimensions of the one end portion, and to work harden the one end portion while leaving an opposite end portion dimensionally unchanged and maintaining cold-workability of the opposite end portion;

machining the previously upset one end portion to form a cam engaging portion of said wear resistant shoe;

forming a hollow region in an opposite rod stock end portion;  
and

crimping the periphery of the hollow region about a rounded end of the piston rod.

16. (Original) the method of claim 15 further comprising the step of work hardening the one end portion during the upsetting step.

17. (Original) The method of claim 16 further comprising the step of surface hardening the upset one end.

18. (Original) The method of claim 15 further comprising the step of work hardening the periphery of the hollow region during the step of crimping.

19. (Previously Presented) A method of forming and assembling a piston and wear resistant shoe, the shoe formed from hardened rod stock, comprising:

machining a region of the hardened rod stock to form a cam engaging wear resistant surface of the wear resistant shoe;

forming a hollow region in one rod stock end portion;

annealing the one end portion of the rod stock; and

crimping the periphery of the hollow region about a rounded end of the piston rod.

20. (Cancelled).

21. (Previously Presented) The method of claim 19, further including the step of surface hardening the machined cam engaging surface.

22. (Original) The method of claim 19, wherein the step of crimping work hardens the one end portion.

23. (New) The method of claim 9, wherein said alloy of cobalt is non-corrosive in aircraft fuel.

24. (New) The method of claim 23, wherein said alloy of cobalt has corrosion resistance, wear resistance, and cold workability properties consistent with Haynes 25.

25. (New) The method of claim 24, wherein said alloy of cobalt is Haynes 25.